

Negating The Infantry: A Critical Study of Infantry Force Structure in the U.S. Army

**A MONOGRAPH
BY
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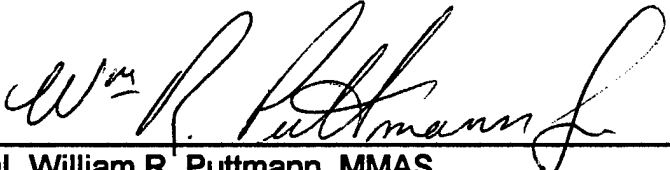
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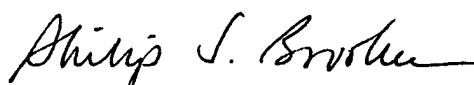
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Chapter I. Introduction.

One who knows the enemy and knows himself will not be injured in a hundred engagements. One who does not know the enemy but knows himself will sometimes be victorious, sometimes meet with defeat. One who knows neither the enemy nor himself will invariably be defeated in every engagement.¹

Sun-tzu, *The Art of War*, 512 BC

Throughout the Cold War the U.S. Army relied upon mechanized infantry to meet the Soviet threat. The U.S. faced an enemy with the largest modern mechanized force in the world. That threat disappeared, nearly a decade ago, when the Soviet Union collapsed and military forces throughout the world significantly reduced their armed forces. The U.S. Army from 1989 until 1999 underwent its most dramatic downsizing since the end of World War II, as the global environment changed. The nature of conflict has changed too, but U.S. Army force structure, although smaller, has remained fundamentally a mechanized heavy force. This paper demonstrates that there is an increased need for basic infantry in the post Cold War world.

As Sun-tzu stated, an army must know themselves and the enemy, to ensure success in conflict. U.S. Army doctrine stresses, in periods of rapid and fundamental change it is important to closely scrutinize previous assumptions made about the threat and factors impacting on the mission.² During the Cold War the Army based its structure on some key assumptions about the future threat and the global security environment. Those assumptions drove U.S. Army force development and technological adaptations in accordance with the Concept Based Requirements System (CBRS).³ They allowed Army decision-makers to except force design risks in some areas in order

to seize on threat vulnerabilities in others.⁴ Though prudent at the time, many of those assumptions may no longer have relevance in a post cold war environment that no longer contains a Soviet Union.

This monograph begins with a review of infantry force developments in the Twentieth Century and the theories behind infantry force structure in industrial nations. It explores the basic assumptions that underscored the decisions to equip the majority of the U.S. Army with the Bradley Infantry Fighting Vehicle (IFV). It analyzes the current and future security environments. The monograph compares both the U.S. Army's light and mechanized infantry capabilities in the context of the global environment and concludes by answering the question "is the IFV-equipped infantry the right infantry force for today's environment?"

Infantry – In Search of Definition.

Carl Von Clausewitz found it necessary in all eight books of On War to begin many of his topics with precise definitions for the terms and concepts he chose to discuss. Statements like: "...we shall try to clarify the common usage of these terms..." and "They are merely meant to serve as an approach to greater clarity and precision of language..." demonstrate the importance he placed on arriving at a precise understanding of a commonly used term before embarking on any serious analysis of a topic⁵.

Since there is no definition of the term 'infantry' in official U.S. Army publications, several variations of modern infantry definitions are important to review.⁶ Consider the description given by an encyclopedia:

INFANTRY: A force of soldiers who fight on foot, even though they may be transported to the battle by air, sea, or mechanized transport. Infantry was predominant in ancient warfare, declined when the emphasis shifted

to cavalry (c.400AD), and became important again with the development of firearms in the late Middle Ages. World War I, with its trench warfare, was essentially an infantry war. The development of fast moving armor, air power, and the landing craft made World War II a war of combined operations in which infantry played a decisive but not exclusive role.⁷

With surprising professional accuracy this description sums up the general historical development of infantry. It is no longer the only means to mass fires, but is a part of a combined arms team. It recognizes the difference of infantry in that it is intended to fight on foot regardless of its method of delivery into the fight. This statement manifests a common understanding that infantry compliments the effects of other combined arms that when applied together, become the most effective means to mass effects against the enemy. The Oxford Dictionary defines infantry as simply "Soldiers who fight on foot."⁸ Infantry is "The branch of an army made up of units trained to fight on foot" as the American Heritage Dictionary defines it.⁹ Webster's defines it as "soldiers trained, armed and equipped to fight on foot."¹⁰

From the definitions for infantry it is clear that at a minimum, an infantry unit would be organized, trained, and equipped to fight on foot regardless of their mode of delivery to the battle. A logical conclusion can be drawn that if a unit is organized, trained, and equipped to conduct a battle while mounted, then it is something other than infantry. A historical review of infantry employment reinforces this concept.

Prior to and throughout World War I, infantry was the primary doctrinal means of massing effects on the battlefield. In World War I rapid fire artillery, the trench, barbed wire and the machine gun nullified the infantry's ability to mass and maneuver against an opponent.¹¹ The horse cavalry, was negated by the lethality of the other two combat arms, artillery and infantry.¹² By the latter part of the war, however, the tank and

mechanized vehicles revived the once useful role of armored horse cavalry for shock effect.¹³ The new force was given the name armor or “tank.” This force was to the armored horse cavalry and became a crucial partner in massing effects on the battlefield. It had nothing to do with fighting on foot but could not operate without the support of foot soldiers.¹⁴

Toward the end of the war armor assumed a greater role and became an equal partner on the battlefield with infantry. Because of the unique qualities of both arms, armor and infantry used together was proven to be an extremely effective combination. Each had qualities that the other needed in a battle but could not provide when operating independently.

In the years between World War I and World War II only the Soviet Union and Germany pursued significant advancements in mechanized warfare. Both nations experimented with mobilizing infantry forces using trucks, motorcycles, and even bicycles to provide the infantry with increased mobility while retaining the speed and range of tanks. The USSR and Germany entered into a period of military cooperation between 1926 to 1933. During this period, both armies discussed and exchanged ideas on the problems of keeping the tank and the infantry in cooperation with one another on the future battlefield. Experimenting with various infantry concepts at Kazan proving ground in Russia, both the Germans and Russians agreed that the tank was to be the most significant player in the next war. This would relegate infantry to a secondary role of follow-on unless it could keep up with the tank forces.

By 1935, confounded by the mobility problem of the tank and infantry, the German Army identified different operations for both the armor and infantry roles.

Nearly all German infantry units were transitioning towards being motorized. However, by the close of World War II the German mechanized infantry force concept had been proven the most effective tank and infantry combination.

Mechanized infantry forces were little improved upon from the end of World War II until after the Korean War. After the Korean War the U.S. and Soviet Army's fielded numerous Armored Personnel Carriers and Infantry Fighting Vehicles in response to NATO and Warsaw Pact advancements. The culmination of these advancements became the Bradley Fighting Vehicle (BFV) for the U.S. Army and the BMP3 for the USSR.

Infantry capabilities had evolved from the foot-mobile infantrymen of 1918, to the high-tech IFV crews of the 1990s. Of all participants in mechanized infantry development since World War I only three, Germany, Russia and the United States, have made significant contributions towards a change in infantry developments.

The Mechanization of Infantry – Germany.

The German Army was the first to mechanize infantry forces on a significant scale with a doctrine in World War II that stipulated a ratio of six infantry soldiers to one tank.¹⁵ The objective appears to have been a desire to accompany each tank with a complete infantry squad (eight to nine men). The Panzer Grenadiers were equipped with either a half-track or small armored personnel carrier (APC) but none of the various models could carry six soldiers. The Grenadier squad size was reduced to six - a compromise that was further reduced to four men before war's end.¹⁶ Throughout the war their primary purpose was to support the tank forces. The panzer grenadiers were organized and trained to fight primarily as infantryman. Their leadership, up to the battalion commander was often on foot during major engagements.

The Armored Personnel Carrier (APC) provided both mobility and protection to the foot soldiers whose primary function was to protect and facilitate the advance of the tank. Though often equipped with crew-served weapons or small canon, the APC was not to be used as a duplicate effort for the tank¹⁷. The 1944 Wermacht Field Service Regulation placed special emphasis on the armor units; they were not designed to fight without infantry support.

“...the tank fights the enemy tank and destroys other weapons. The panzer grenadier looks for hidden antitank guns and fires on them. He prevents close quarter attack on the tanks. Covered by tanks, he clears the enemy position. In good country, the armor moves from cover to cover, giving fire protection to the panzer grenadiers following. In wooded areas, the panzer grenadiers precede the tanks [and]... destroys the enemy with the weapons they carry on their vehicle.”¹⁸

Soviet Mechanized Infantry.

The Soviet Army, under the direction of Marshall Tukachevsky saw a role similar to Germany for motorized/mechanized infantry. His concept was to create primarily a mechanized army centered on the tank as the main arm of attack. Similar to the Wermacht concept, infantry forces were no longer the primary combat arm, they were integrated with the tank to enhance its offensive capability. Soviet infantry was combined with the armor so closely that the primary cover on the battlefield for the infantry was their tanks.¹⁹ The infantryman provided protection to the tank from enemy infantry and anti-tank fires. The two combat arms never work independently of one another until the enemy's forward defenses were penetrated. While the infantry reduced the enemy's defenses, the tank forces attacked softer targets in the enemy's rear and along his lines of communication (LOCs).²⁰ General Georgi Zhukov was the first to test Tukachevsky's doctrine during the 1939 Manchurian campaign against the Japanese.

The Soviet Army from the late 1960s until the break up of the Soviet Union in 1991 relied on mechanized infantry. This was due in part to the atomic threat posed during the cold war but also in order to conduct a successful conventional war in Europe. Soviet mechanized infantry forces by the late 1980s were equipped with highly capable infantry fighting vehicles and this forced the U.S. Army to develop the Bradley Infantry Fighting Vehicle.

U.S. Mechanized Infantry.

U.S. Army mechanized infantry doctrine followed a similar development to that of German doctrine. The U.S. did not begin a serious program for mechanizing infantry forces until after the stunning German battle successes in Poland and France in 1939-1940.²¹ Two armored divisions were activated in 1940, each with two battalions of "armored infantry".

At the height of American involvement in Europe in World War II, infantry units were well equipped with numerous modes of wheeled transport but few could actually be called mechanized. Like the Germans, only a handful of the designated "Armored Infantry" battalions were equipped appropriately with armored transport. The performance of their mission did not change. Infantrymen moved with the tanks on foot if the terrain and enemy situation would not allow them to ride motorized transport.

Infantry developments remained unchanged in the U.S. army from 1945 to the end of the Korean War. After the Korean War in 1953 the U.S. Army was the first to equip mechanized infantry with a fully enclosed tracked APC, the M52. The Soviets responded in 1954 with the fully tracked BTR50, and in 1962 the U.S. Army fielded the M113 which proved to be a significant improvement in the search for a mechanized

infantry combat vehicle (MICV). This was the first infantry transport that allowed infantry to advance with the tank, completely enclosed in armor, and capable of employing a heavy machine gun or 20mm canon.²²

During the 1970's as the Soviet troop strength in Eastern Europe grew to an alarming size, U.S. Army infantry organizations changed to adopt a tactic of being able to fight outnumbered and win. As a result, the U.S. fielded the Bradley Fighting Vehicle (BFV), the M1 tank, and the AH-64 attack helicopter in the early 1980s. The majority of U.S. divisions were equipped with these new systems. Less than one-third of the active army force structure remained as light infantry. Though never required to fight the Soviet Army, these systems demonstrated their effectiveness in Operation Desert Storm in 1991. In the late 1990s U.S. mechanized infantry forces, by their numbers and quality, were considered to be the most lethal and effective infantry of any conventional mechanized force in the world.

After the collapse of the Soviet Union a significant change in the nature of conflict took place as a once bipolar world became less stable. However, the U.S. infantrymen found themselves without peer on the conventional battlefield. The U.S. was forced to assume a greater role as the world's policeman. With rapid urbanization, terrorism, and the proliferation of weapons of mass destruction, failed nation states, narco-terrorism, non-state terrorism, and ethnic violence, the U.S. Army was forced to face a new and non-conventional enemy. However, the force structure remains essentially a structure designed for the Cold War and less for the existing and future environment.

Chapter 2, Organizations.

“...if war breaks out or if she [the Soviet Union] perceives that someone else is about to start one, then she plans to win it, win it quickly, and begin with surprise and initiative on her side.”²³

-Christopher Bellamy, *The Future of Land Warfare*

In 1972 as the United States Army returned from Vietnam, the Army's leadership concluded that the United States must be prepared for two types of war. One scenario would involve a predominantly light infantry force in the littoral regions of the world. The other scenario and most dangerous threat, was a conventional war in Western Europe. It would be mechanized warfare against the Soviet Union, America's “strongest and most dangerous enemy,” that concerned Army leadership the most.²⁴

Compared to the Soviet Union, the U.S. Army was far behind in mechanized warfare developments. From 1960 to 1972, because of U.S. involvement in Vietnam, U.S. forces in Europe, although substantial, were ill equipped. Except for the UH-1 helicopter, there had been few new equipment, organizational, or doctrinal improvements in almost a decade.²⁵ Soviet forces during this period had not only increased in size, but had modernized their major combat equipment with new systems. The T-72 tank, BMP1, BTR60 and new artillery and anti-tank systems were all fielded before the last U.S. unit departed Vietnam.²⁶

In the mid-1970's, under the leadership of Generals Depuy and Starry, the Army adopted a new operational doctrine, training system, and equipment development strategy. By 1976 this new doctrine, driven by the Soviet threat, had established that the U.S. must be able to “fight outnumbered and win.”²⁷ This reality set in motion a new emphasis for inter-service cooperation. By 1982, substantial gains had been made in

Joint Operations. The tactical doctrine of the 1976 version of FM 100-5 evolved into the operational “Air-Land Battle” doctrine of 1982.²⁸ By the late 1980’s the active Army grew from thirteen to eighteen divisions.²⁹ The M1 Abrams replaced the M60 tank, the AH64 attack helicopter replaced the Vietnam era AH1, and the M2 Bradley replaced the twenty year old M113. Every piece of Army equipment from uniforms to major weapons systems was replaced or significantly improved.³⁰ By 1986, with better doctrine, better equipment, and better training, the Army believed it was well prepared to fight and win a major conventional war in Europe.

Cold War Force Structure.

In 1990 when the Warsaw Pact began to dissolve the forces of the U.S. Army consisted of essentially two types of divisions – heavy and light. There were eleven heavy divisions (mechanized infantry and armor), three heavy armored cavalry regiments, and seven light infantry divisions.³¹ The mechanized infantry division consisted of four tank battalions and five mechanized infantry battalions all organized under three brigade headquarters. The armor division was identically organized except that it had four mechanized and five tank battalions. The light infantry division consisted of nine identically structured infantry battalions.³² Essentially the Army was 65% mechanized and 35% light.³³ There were two Corps consisting of four mechanized divisions deployed in Europe against a numerically superior Warsaw Pact force.

The role of the U.S. Army heavy division was to destroy enemy mechanized and armored forces. Designed to counter Soviet forces in Europe, these divisions were employed for their mobility, survivability, lethality, and shock effect. The armored and mechanized divisions could seize and secure geographical areas and key terrain. In the

offense they could "rapidly concentrate overwhelming lethal combat power to break or envelope enemy defenses or offensive formations."³⁴ Their protective systems allowed them to operate in a lethal environment with possible nuclear, biological or chemical warfare. These units were equipped with leading edge technology and designed to "operate in open terrain where they gain the advantage with their mobility and long-range, direct-fire weapons."³⁵

A significant limitation of the heavy division is that it requires time to deploy from home bases into an operational theater. Armored forces consume large amounts of supply in fuel and maintenance requirements. Additionally, they could "deploy relatively few dismounted infantry, and have limited use in restrictive terrain."³⁶ U.S. forces if not forward deployed into a theater of war would require several weeks to deploy from the U.S. to the European Theater.

The role of the light division during the period 1972 until 1990 was primarily to meet the need for a rapid deployable force capable of operating in conventional, "high-intensity" operational theaters such as in Europe, and non-conventional "low-intensity" contingency operations. The light divisions were designed to be the "dominant arm in fast breaking operations because of their rapid strategic deployability."³⁷ They were a multi-use force, equipped to operate throughout the conventional battlefield and could be rapidly augmented for "almost any task or situation." Unlike the heavy division, the light division was especially suited for operations in restricted terrain such as in urban, mountain, and jungle environments.³⁸ Limitations of the light division were its anti-armor capability when operating in open terrain and its lack of organic transportation resources.

The Mechanized Infantry Division Structure.

The armored and mechanized divisions structures is essentially the same. They each had identical roles on the battlefield and nearly identical organizations. The mechanized infantry division in 1989 consisted of five M2, Bradley-equipped mechanized infantry battalions and four M1 tank battalions.³⁹ Of the three maneuver brigade headquarters, two were organized “mech heavy” with two mechanized and one tank battalion, and one brigade was “tank heavy” with two tank and one mechanized battalion. The armored division had one less infantry battalion than the infantry division (see figure 1).⁴⁰

Mechanized Infantry Division

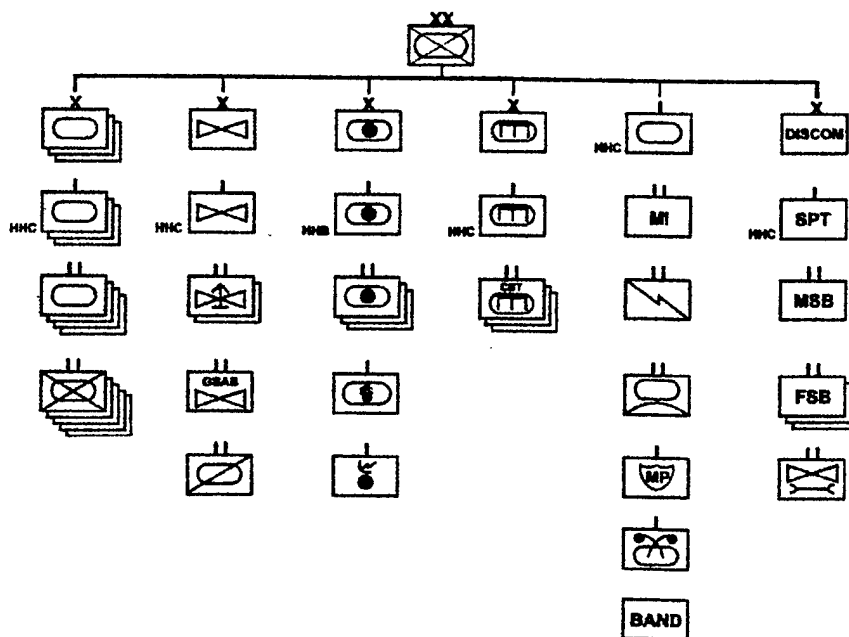


Figure 1

The mechanized infantry battalion was built around the concept of combined arms. The infantry was employed with the tank and together they created a lethal force. The infantry were mounted in a M2 Bradley Fighting Vehicle (BFV). It was designed to carry six infantrymen for dismounted tasks, but it could defeat every Soviet mechanized and armored system deployed in Eastern Europe.⁴¹ It was equipped with the same state-of-the-art thermal vision sight as the M1 tank, and a computer stabilization system for all turret weapons systems for firing on the move. The main gun was a rapid fire 25mm canon designed specifically to defeat the Soviet BMP2, BTR60 and BRDM infantry vehicles. In addition, the Bradley had a dual TOW anti-tank missile launcher capable of defeating the Soviet T72 tank.⁴² The battalion consisted of four companies, each with fourteen M2 Bradleys, and a scout platoon with six M3 Bradleys.⁴³ With the battalion commander's and S3's vehicles, there were a total of sixty-four Bradley's in the battalion.

Though the battalion was well equipped for the mechanized battlefield it had relatively few dismount infantrymen. Each platoon could employ up to two nine-man squads who were capable of conducting precise dismount battle drills in various situations. The platoon leader and his radio operator would dismount with the squads. These squads allowed the platoon to defeat enemy dismounted infantry within range of the BFV, clear obstacles, conduct dismounted patrols, and to provide additional security for the BFV in restricted terrain.⁴⁴ The battalion could employ a total of 216 dismounted infantrymen or twenty-four squads total. With five mechanized battalions the mechanized infantry division could employ 1080 dismount infantrymen.

The Light Infantry Division Structure.

In 1979, Army Chief of Staff General Meyer redirected the Army's mechanization efforts away from the remaining infantry divisions. He directed that force planners review the Army's rapid deployment capability and study the concept of keeping a few divisions if not "light" then at least rapidly deployable with existing strategic air lift. General Meyer's concern was that U.S. based heavy divisions could not deploy fast enough into the European theater. Initially light divisions were designed to be mobile on the battlefield with light wheeled anti-armor assault vehicles and their primary purpose was to reinforce NATO units rapidly.⁴⁵

In 1983 the new Chief of Staff, General John Wickham, further developed the light division concept in part due to Army budgetary constraints. The Army could not budget for the wheeled assault vehicle concept – it was too costly. Additionally, since there were no projected increases in strategic airlift capability, the light divisions had to be deployed using existing aircraft. Without the assault vehicles, and with the aviation units stripped to a minimum, these units did not possess the lethality required of the European Theater. Consequently, the strategic concept for their employment had to shift. The light division was considered too light for the high-intensity European Theater.⁴⁶ In 1984 General Wickham expressed a new strategic vision:

"Army leadership is convinced, based upon careful examination of studies which postulate the kind of world in which we will be living and the nature of conflict we can expect to face, that an important need exists for highly trained, rapidly deployable light forces. The British action in the Falkland Islands, Israeli operations in Lebanon, and our recent experience in Grenada confirm that credible forces do not always have to be heavy."⁴⁷

This concept satisfied budgetary restraints and fulfilled the roles and missions requirement for deployability, force projection, and low-intensity conflict.

Only four of the light divisions had identical Tables of Organization and Equipment. The 9th Motorized, 82nd Airborne and 101st Airborne Division (Air Assault) were each specially equipped with unique capabilities although all were built around the light division base.⁴⁸ The 9th Motorized Division was a test-bed unit for various experimental wheeled assault vehicles throughout the 1980s but it was considered a deployable division. The 82d Airborne Division was equipped with an "air-dropable" armor battalion to enable it to conduct brigade-sized "forced-entry" airborne operations in mid, to high intensity environments. The 101st Division was equipped with additional attack and lift aviation battalions to enable the division to conduct brigade-sized air assault operations and both the 82d and 101st had one additional wheeled anti-armor company in the infantry battalions. The 6th, 7th, 10th, and 25th were officially designated "light" but without the increases in aviation and anti tank capabilities.⁴⁹ All seven divisions were similarly structured with three infantry brigades each consisting of three infantry battalions per brigade and minimal division support units (see Figure 2).⁵⁰

Light Infantry Division, 1986 – 1996

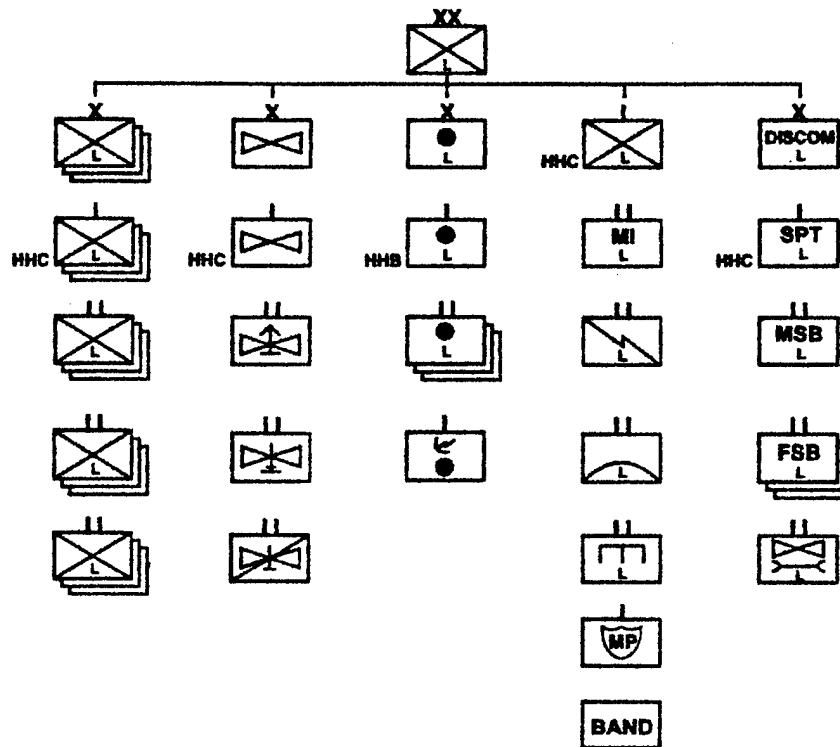


Figure 2

These light infantry divisions were built around the concept of a nine-man infantry squad, each infantryman equipped and trained for operations in jungle, forested, mountain, and urban terrain. In all light divisions the individual rifle company was completely foot mobile, having no organic vehicles or heavy weapons systems. Only the headquarters company had wheeled vehicles (with the exception of the anti-armor company in the airborne and air assault battalion). The rifle company consisted of three platoons of four squads each, or 108 designated infantrymen total. With nine battalions, in the light division it could field a total of 2,916 infantrymen (not including company or battalion mortars, or leadership personnel outside of the squad).⁵¹

Post Cold War Drawdown.

Following the Cold War the Army personnel strength was reduced by 37%. The active Army force structure lost eight divisions. Of the eleven heavy divisions in 1989, five were cut. The light divisions were reduced by three. By 1997 the active Army stood at ten divisions, four light and six heavy. All divisions retained three full brigades and were essentially unchanged from the 1986 "Army of Excellence." The Army reduced an equal proportion of both heavy and light forces and retained a similar posture as that in the height of the Cold War (see Figure 3).⁵²

U.S. Active Force Posture, 1997

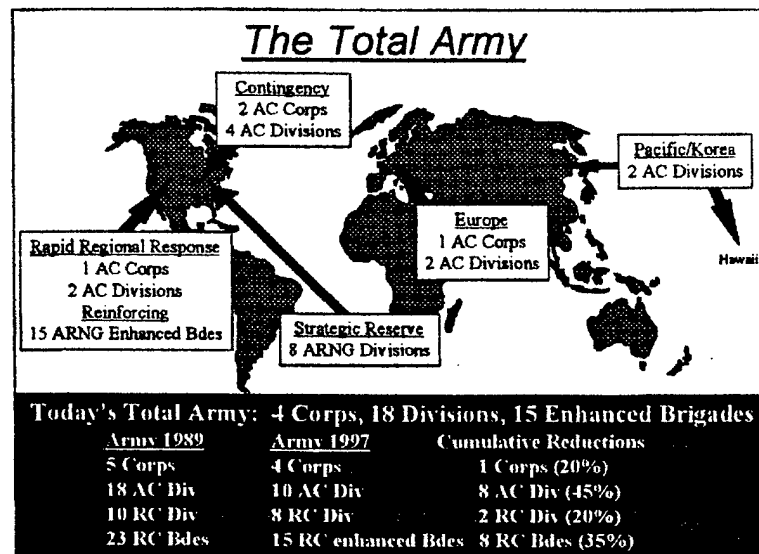


Figure 3⁵³

Chapter 3. The Environment.

"... there was not enough infantry, and what there was overall did not match the quality of the tank forces. The harsh truth was that mesmerization with firepower and armor had induced, if not a myopic view of the worth of infantry in general, at least a benign neglect of valued infantry skills."⁵⁴

-J. A. English, *On Infantry*

Theoretically, the United States Army force structure is designed to counter a threat capability or maintain certain abilities of which the force may be required to execute. In the early 1970s, the U.S. Army identified a need to match the Soviet Union's increasingly mechanized Army. To fulfill its part of the nation's strategic goal of Soviet containment, the Army modernized and structured itself with heavy emphasis on fighting a large industrialized and mechanized enemy. With the foresight of the Concept Based Requirements System (CBRS), Army divisions were restructured with increased armor and mechanized capabilities.⁵⁵ Towed artillery was replaced by highly mobile and armored indirect fire systems. Missiles and radar-guided anti-aircraft weapons systems replaced World War II direct fire guns. The M1 tank and Infantry Fighting Vehicle (IFV) replaced large formations of infantry as the primary maneuver arm for close battle with the enemy. By the mid-1980's the Army's division force structure, composed of 100% armored systems, was clearly transformed to meet the large, mechanized Soviet menace in Europe.⁵⁶ The threat environment changed, however, and significantly, from 1989 to the mid 1990's.

The first and most significant contributor to the changed environment was the collapse of the Soviet Union in 1991. The object of the US Army's modernization focus crumbled under the weight of unsustainable economic, government and diplomatic

policies. East/west dividing barriers were dismantled when many of the former Warsaw Pact members began to establish closer relations with the North Atlantic Treaty Organization (NATO). After German reunification and establishment of a democratic government in Russia, the large Warsaw Pact armies became an undesirable burden to the new governments and were dismantled rapidly.

The environmental changes during the early 1990's affected relations with the Eastern Hemisphere nations. U.S. relations with China have been normalized. China has taken considerable steps toward downsizing their armed forces and restructuring their political goals enough to convince U.S. policy makers to establish economic, diplomatic and military ties that were unimaginable ten or fifteen years ago.⁵⁷ Today only North Korea remains as a threatening player in the Pacific Theater.

With Operation Desert Storm as a definitive litmus test to the international community, American military forces find themselves in the enviable position of gross overmatch against any military threat and globally dominant. According to the Institute for National Security Studies (INSS) only a few nations can afford the expense of a large standing force, but the U.S. is the only nation, out to the year 2010, who can maintain a large and technologically competitive military.⁵⁸ They contend that the U.S. is also the only nation who can project and sustain a force anywhere in the world for extended periods. More importantly, it can do this and still continue research, development, and production of even more sophisticated and superior capabilities.⁵⁹

According to the 1998 National Security Strategy, The 1997 Strategic Assessment from the National Defense University and the Joint Vision 2010 statement, the threat environment will continue to be very different from that of the Cold War.⁶⁰ Threats to

U.S. national interests are extremely varied but do not include containment or open conflict with a peer competitor for the foreseeable future. The INSS states that the primary threats against which the Army is operating, and expects to continue as potential threats, consist of international narco-trafficking, the proliferation of weapons of mass destruction (WMD) from rogue nation-states, terrorism from non-state players, and peace operations in numerous environments.⁶¹ Many analyst recognize varying degrees of Joint Service approaches to these threats but a common thread in almost every one is the requirement for ground forces – well trained and well resourced ground infantry in particular. A requirement more so now, than any time since the American involvement in Vietnam.⁶²

The 1998 National Security Strategy lists five threats to our national interests, only one of which could possibly require a conventional ground maneuver fight against a symmetrically shaped enemy, trained, supported and employed by an established national entity. The other threats call for the potential use of conventional ground forces in roles to counter-terrorism, drug trafficking, uncontrolled refugee migrations, proliferation of dangerous technologies and weapons of mass destruction (WMD), foreign intelligence collection, and assistance to failed nation states. The Institute for National Strategic Studies (INSS) supported this assessment in their 1997 Strategic Assessment report. As expected, the INSS establishes that it is no longer possible to base force structure on a single canonical threat concept. The strategic environment for the next decade and beyond requires ground forces who are predominantly equipped and trained for a broad range of peace operations, counter-WMD and counter terrorism operations, while retaining the capability to defeat rogue regimes in regional conflicts.

According to INSS analysts, there is no military threat that can seriously compete on the conventional battlefield against U.S. military forces in the next decade. Dr. Robert L. O'Connell at the National Ground Intelligence Center (NGIC) agrees. Some nations, on rare occasion, may attempt to conduct open maneuver warfare against the "truly advanced force" but with suicidal results by even stepping onto that battlefield.⁶³ But he asserts that the real challenge for U.S. ground forces, in the next decade and beyond, is not the conventional open battlefield fight, but it is waiting in the bowels of densely populated urban areas and city streets – not unlike Mogadishu and Grozniy.

Cities will soon become the principle venue for combat according to O'Connell. Players on the small end of the techno-economic equation will see the immediate advantage of operating against a technologically superior, mechanized force from within the city labyrinth of three-dimensional lines of communication, cover, concealment, and support channels.⁶⁴ The conventional wisdom from past wars that urban warfare is "just too hard" and should be avoided at every opportunity may not be true. This advice is still applicable when the contestants are conventional armies and both tend to lean toward open maneuver warfare. U.S. forces may no longer have a choice. The "peace" to enforce, the failed nation-state to assist, and the non-state terrorist to thwart will emanate squarely from the urban setting.⁶⁵ In the last 30 years the world's populations have moved to the cities and the trend continues. The forecasts are that at the present rate of urbanization 75% of the world will live in cities by 2010. This is in contrast to only 25% in 1950.⁶⁶ It is difficult to imagine that U.S. ground forces would not be forced into greater involvement in urban combat.

For military planners the urban warfare centers of gravity often escape the best

intelligence and information dominance schemes. But the urban threat readily understands the advantages of his environment, safe from prying satellite imagery; protected by the surrounding civilian inhabitants; invisible to the conventional ground maneuver commander. His lines of communication, base of operations, logistics, and manpower are all in the city. He has no reason to venture beyond its confines. Like the Chechnyan freedom fighter, the urban fighter knows that he can operate more freely in the city and wait patiently for the conventional force to come to him. The urban environment provides strength and protection.

For the U.S. the world is not becoming a less dangerous place nor is it a place where technology will provide a distinct advantage in all situations. The fast growing urban environment is less susceptible to American high-tech battle formations. In a *Parameters* article, contributor Ralph Peters presents in Our Soldiers, Their Cities that the future of war lies in the world's cities and urban sprawl.⁶⁷ The threat will rarely resemble a structured military force with battle formations and a combined arms modus operandi. Because the world's population has become so remarkably urban in recent years, it will invariably require U.S. ground troops to operate in the cities and counter the threat there, more than any time in history. Peters states:

“We declare that only fools fight in cities and shut our eyes against the future. But in the next century, in an uncontrollably urbanizing world, we will not be able to avoid urban deployments short of war and even full-scale urban combat. Cities have always been centers of gravity, but they are now more magnetic than ever before..... A military unprepared for urban operations across a broad spectrum is unprepared for tomorrow.”⁶⁸

With his description of the future urban operational environment, he contends that the U.S. Army is woefully unprepared. That “the U.S. Army, as presently structured,

would find it difficult to muster the dismount strength necessary to control even a single center as simultaneously dense and sprawling as Mexico City.”⁶⁹ This environment is predominantly an infantry fight. In 1991 U.S. mechanized infantry and armor forces alone are not adequate. As the Russians discovered in Grozny, mechanized infantry and their leadership are tethered to their combat vehicles, and the tanks, without ground infantry escort, are “death traps”.⁷⁰ Unless their efforts are met by infantry in the buildings, in subterranean structures, and house-to-house, the urban fighter has a distinct advantage. Hidden in city corridors he is not afraid of tanks or infantry fighting vehicles. From this protected enclave he will fire hand-held rocket volleys at mechanized vehicles – destroy the lead and trail vehicles then pick off the rest one by one. In the first three days of fighting in Grozny, Chechen street fighters destroyed 20 of 26 tanks, 102 of 120 BMPs, and all six ZSU-23 anti-aircraft guns of the Russian mechanized task force.⁷¹ This damage, reminiscent of the Afghani conflict, was inflicted from a guerrilla force with little or no combined arms assets: no attack helicopters, no artillery, no tanks, no armored personnel carriers. Like the Afghani freedom fighters, the Chechens defeated the better-equipped Russian force with only hand-held weapons and man-portable communication systems.

In an urban environment, the enemy can seize on the opportunity of high-casualty producing ambushes, raids and sniper engagements against American helicopters, street-bound mechanized forces, and wheeled convoys – without being detected until execution. As the British learned in Northern Ireland, enemy MOUT fighters will take advantage of the special protected status of inhabited urban structures and can be counted on to know how to exploit the conventional forces’ rules of engagement (ROE).⁷²

The world's cities may well take center stage for Army efforts for years to come. The likelihood of operations in rugged terrain such as jungles, mountains, heavy forest and swamps as potential future environmental denominators is increasing.⁷³ No matter what the environment, whether its peace enforcement, counter-guerrilla, counter-insurgency, operations to thwart rogue-nation aggression or terrorist sponsorship from non-state players, U.S. forces will be required to conduct operations in support of national interests.⁷⁴ The concern is that future U.S. force structure is predisposed toward an inflexible strategy of annihilation.⁷⁵

The model of future warfare is predominantly one of attrition; "Although the United States has traditionally planned for rapid wars of annihilation, protracted wars of attrition have been the norm. Only the Spanish-American War and the Gulf War were wars of annihilation."⁷⁶ The argument is that the American force seriously preparing for the annihilation battlefield must also prepare to minimize the ugly, uncontrollable nature of attrition warfare. They must recognize that the conventionally equipped and trained force designed for warfare on the European plains and Southwest Asian deserts, needs a serious re-look before it is committed to the asymmetrical enemy devoted to attrition warfare. Against well armed, determined, self-sacrificing guerrillas or "freedom fighters", such as the Russians faced in Afghanistan and Grozny, the "decisive victory through dominant maneuver" force can be quickly frustrated.⁷⁷ Enemy command and control, like that in Chechnya, may tend to be decentralized, mobile, and rarely reliant on communications means that can be electronically intercepted and exploited. The Somali street fighter in Mogadishu, demonstrated commitment, endurance, and unstructured operating methods that U.S. technological advantages. The enemy will seize every

opportunity to produce American casualties and can be counted on to sacrifice their own civilian population if it gains negative press for the U.S.⁷⁸ Military objectives, as the dominant maneuver force knows them, are immaterial to the terrorist, guerrilla, and freedom fighter. The objective for them is to simply outlast the impatient and sensitive American public.⁷⁹

Mechanized organizations, when properly trained, are of great utility in urban combat when working closely with infantry, but in every instance “the weapon of choice in these conditions remains a large number of well-trained infantrymen.”⁸⁰

A dissonance has appeared between the emerging ground force structure and the prognosis for the future threat environment. Most analysts agree that the force must be much more deployable and able to conduct both peace and conventional operations.⁸¹ Force-projected operations are a financial and strategic reality. Force XXI and Army After Next (AAN) planners have sought to meet this requirement. They have laid the ground work for a force that is primarily designed to fight high-tempo, high-technology land and air operations that can quickly overwhelm a competing military force while sustaining few casualties.⁸² Information dominance is crucial, allowing efficient and precision application of expensive resources. The design of Force XXI places a premium on precision guided munitions, high-tech command and control systems and rapid intelligence collection and dissemination processes.⁸³ The new design is essentially a heavy, modernized force, designed to fight on a significantly less probable conventional battlefield. The INSS Strategic Assessment states under an ominous sounding paragraph titled “Specters Haunting Future Ground Force Evolution” that “The Army’s planning for 2007 posits a force very similar in size and structure to that of 1996”.⁸⁴

For Force XXI structure, the Army maintains the same percentage of heavy versus light divisions as it did in the height of the Cold War. In the late 1980's the Army consisted of eleven heavy, one motorized, and six light divisions, with three armored cavalry regiments (ACR).⁸⁵ After the defense downsizing in the 1990's, the active Army force consisted of six heavy and four light divisions, one light cavalry regiment and one heavy ACR. With the losses incurred in the division headquarters, the heavy force was reduced more than the light divisions: 45% reduction in heavy divisions versus 33% from the light.⁸⁶ The reduction percentages are approximately equal when the loss of the 9th Infantry Division is taken into account. The 9th Division was based on a light division design but it was used as a test bed for various experimental assault vehicle concepts in the 1980s. In short, the Army essentially cut one-third of each type of division across the board.⁸⁷ By all appearances, it seems that with the fall of the Soviet Union and disintegration of the Warsaw Pact, U.S. force structure designers planned away one third of the total Cold War threat. The Force XXI structure suggests the expectation of a threat environment that is primarily the same as in the 1980's, only smaller; a mechanized heavy threat, capable of combined arms warfare with emphasis on armor formations⁸⁸.

The 1997 Army Warfighting Experiments (AWE) at Forts Hood and Irwin have indicated that U.S. Army forces possess the capability to fight effectively against any mechanized opponent.⁸⁹ The force posited by the AWE is not built for attrition warfare. Long campaigns of guerrilla-style combat or intensive infantry fighting in built up areas are difficult to envision on the force design agenda. A quick, decisive campaign using U.S. technology is the focus. Proponents of this strategy argue that this design will allow

the Army to conduct peace operations while maintaining the ability to fight high-intensity combat.⁹⁰ The mechanized infantry, will have greater "capability" but require fewer infantrymen. The Bradley equipped infantry battalion has been reduced from four maneuver companies to three. This stripping away of even more dismount infantry from an already small number has decreased its ability to perform basic infantry missions. U.S. Army force design appears to be focused on the same Cold War-era capabilities: greater mechanized lethality against a peer competitor.⁹¹ This may be good in a future Desert Storm but the global environment is not cooperating. Many analyst urge caution that the most likely operations for the near future for Army ground forces are less like Desert Storm and more like Bosnia, Haiti, Somalia and Chechnya.⁹² Operations where high-tech mechanized machinery is important, but only when employed with well-trained ground infantry, and lots of them. Otherwise, combat vehicles are at the mercy of the uncooperative, asymmetrically shaped and determined belligerent with an RPG.

U.S. Marine Corps (USMC) planners also project that peace support operations, operations to combat non-state threats, and other asymmetrical forms of warfare are the predominant conflict form for years to come.⁹³ The USMC has recognized the alarming urbanization of the underdeveloped nations of the littoral regions and the recent lessons from Somalia and Chechnya. Newly published Marine Corps doctrine focuses on the high probability of extended urban combat in both peace operations and as deliberate military operations to achieve strategic national objectives.⁹⁴ Consider the remarks of US Marine Corps Commandant General Krulak: "Future war is most likely not the son of Desert Storm; rather, it will be the stepchild of Somalia and Chechnya."⁹⁵

More and more threats to U.S. interest come from those nations and non-state

players who have learned to cultivate asymmetrical abilities to attack while remaining formless to a conventionally based foe. This enemy's biggest fear is the consistent and non-stop employment of well-trained infantry against his enclaves, his sniper positions, and into his base of operations. By the employment of infantry to close with him, in his environment, he is ultimately robbed of freedom to move, and freedom to conduct the fight on his terms⁹⁶. In such an environment regular dismounted infantry forces will be in great demand.

Chapter 4. Comparisons.

“We still persist in studying a type of warfare that no longer exists and that we shall never fight again, while we pay only passing attention to the war we lost in Indochina and to the one we are about to lose...”⁹⁷

Roger Trinquier, *Modern Warfare, A French View of Counterinsurgency*

In the new global environment the U.S. Army has acted as a “specialized police force” in order to support national interest. This has occurred in Somalia, Haiti, and Bosnia. Since the collapse of the Soviet Union, the world environment for the U.S. Army has become increasingly less focused on conventional, force-on-force operations. Conventional operations requiring predominantly heavy forces such as those deployed for Operation Desert Storm, are the least likely operations that the U.S. Army will be expected to participate in.

The U.S. cannot expect an attentive and determined adversary to repeat the Iraqi mistakes.⁹⁸ An adaptive enemy can be expected to achieve its end state in asymmetrical ways that bypass the U.S. Army’s conventional strengths.⁹⁹ Indicators of the new global environment emphasize certain physical operating parameters. The foremost parameter is urban terrain. Military Operations in Urban Terrain (MOUT) encompass the majority of U.S. military efforts whether they are operations to counter drug trafficking, assist failed nation states, counter-terrorism, peace enforcement or peacekeeping.¹⁰⁰

A second parameter for U.S. military efforts continues to be Operations Other Than War (OOTW), specifically peace support operations.¹⁰¹ Humanitarian operations, counter-terrorism, and counter-narcotics operations are also likely to increase, instead of decrease, the demand for U.S. Army forces.¹⁰²

Mechanized and Light Infantry Strengths and Weaknesses in MOUT.

Urban environment offers the enemy infantryman or guerrilla concealment and lines of communication (LOC) advantages over mechanized forces because of the three dimensional and concealed nature of the terrain.¹⁰³ As a result, U.S. Army doctrine has always recognized the peculiar advantage that light infantry possesses over mechanized forces in urban terrain. The 1941 Field Manual 100-5 Field Service Regulations recognized that “towns offer concealment for troops and weapons and protection from fire of weapons and mechanized attack...”¹⁰⁴ The manual addressed the constraints of mechanized forces in urban terrain; “mechanized troops are of little value in combat within a defended town. Their use for such combat will probably result in excessive casualties, both in personnel and vehicles.”¹⁰⁵ U.S. Army doctrine has not changed its perspective on the value of light infantry in MOUT. The 1993 FM 100-5 clearly gives the advantage to light infantry in MOUT calling them “particularly effective in urban terrain.”¹⁰⁶ It recognizes that technological advantages are constrained in urban operations which has an “impact on battle tempo; it [the urban environment] forces units to fight in small, decentralized elements.”¹⁰⁷

- **Concealment and The Ability to Close With and Destroy.**

In the restricted and concealed compartmentalization of urban terrain light infantry can move more freely than mechanized infantry, both vertically and horizontally. This was the case in Grozny, Haiti, and Somalia.¹⁰⁸ Dismounted infantry could remain undetected for days if necessary and use stealth and surprise to close with the enemy. U.S. Army forces in Somalia and Haiti learned that mechanized infantry, even at full strength, only had enough infantry to conduct local security of their vehicles in a MOUT

environment.¹⁰⁹ The dismounted infantrymen could not operate beyond mutual support range of the vehicle without exposing the vehicle to enemy Rocket Propelled Grenade (RPG) fires. As a result they could not conceal their location due to the size and noise of their vehicle and they could not participate in clearing operations.¹¹⁰ In Grozny mechanized vehicles remained exposed and were vulnerable to enemy infantry fires, often from vertical approaches. The mechanized infantry forces alerted the enemy with their approaching vehicles several city blocks away, and it was difficult to hide their vehicles.¹¹¹ While mechanized forces could assist infantry operations through their mobility and firepower, their vehicles often became deliberate targets to Chechen rebels.¹¹²

Target acquisition from mechanized vehicles in Mogadishu and Port-au-Prince was done primarily by unassisted eyesight from the top of the turret. The integrated sight unit (ISU) of most IFVs were designed to acquire targets no closer than 200 or 300 meters away.¹¹³ In many instances the sight was either totally useless, or was of limited value in narrow streets when scanning buildings and alleys for targets only fifty to sixty meters away. The long-range, high-resolution IFV sight was of little value when the vehicle had to move quickly through narrow streets and alleyways.¹¹⁴

- **Command, Control and Logistics.**

Light infantry units in the urban environments were able to maintain their command and control and logistics in the buildings and narrow alleyways within close proximity of the combat area.¹¹⁵ Unless significant casualties were sustained, light infantry units could maintain logistics functions in urban areas for days with little degradation of combat power. Light infantry could conduct uninterrupted ground

resupply by moving completely concealed through building, alleys and sometimes sewer systems.

The Russians learned in Grozny that maintenance and refuel functions could not be conducted near the combat zone. When vehicles became immobilized, it required large numbers of infantry to secure rooftops and street-side windows while protecting the vehicles. Vehicle recovery was often not practical in the city due to the intensive infantry manpower effort required to both establish security around the vehicle and escort the recovery vehicles to and from the battle area. Because these security missions were so manpower intensive they often seriously delayed missions that required the force to maintain contact with the enemy.¹¹⁶ Mechanized infantry units often had to redeploy as a whole to secured rear areas to conduct refueling and rearming because of the intensive need for security in movement.

Peace Support Operations.

Not only is the urban environment infantry intensive but for U.S. forces hoping for success they must be prepared for a wide range of peace support operations. These operations also require a force that must operate often on foot and in close contact with the local population and a myriad of involved agencies. Consider this observation from Lieutenant Colonel Bolger's *Savage Peace*:

“Sergeants...end up talking to Save the Children representatives, political commissars, State Department officials, rebel chieftains, mayors, allied battalion NCOs, and Reuters correspondents.”¹¹⁷

This statement does not imply that mechanized infantrymen cannot do likewise, but it does convey an understanding that peace operations tend to demand a greater degree of soldier interaction with a host of human factors effecting the success or failure of the

mission.

The success of many peace operations in the 1990s often hinged simply on American soldier presence.¹¹⁸ There were also many physical and political constraints applied that did not allow mechanized forces to participate in peace support operations. U.S. restrictions and Rules of Engagement (ROE) constraints tend to place a greater emphasis on the use of light infantrymen. Throughout the 1990s, many peace support missions required at least some mechanized forces, however, the majority of missions were accomplished by predominantly light infantry forces. This was not because light infantry was the optimum force for the mission, but because, more often than not, it was the only ground force that would meet the U.S. policymakers' constraints, and deploy rapidly to the conflict area.¹¹⁹

Measures Of Effectiveness.

- **Firepower.** U.S. forces in peace support and urban environments in the 1990s shared two important operating constraints. They could only apply force within excepted limits of collateral damage, and they could only employ force by measured response as stipulated by the Rules of Engagement (ROE).¹²⁰ As a result, when mechanized infantry operated in these environments, they were reliant on their dismount forces or light infantry for most responses to aggression. Because of the extreme destructive power of the M2 Bradley's 25mm main gun and the TOW anti-tank missile system, it could only be used for show of force or as a static defensive observation post on most occasions.¹²¹ The coaxial 7.62 machinegun on the turret was used to great effect when the distances were not so close to prevent target acquisition with the Bradley ISU and the civilian population was not at risk.

As previously discussed, mechanized infantry units in Mogadishu and Port-au-Prince were augmented with light infantry forces primarily due to the manpower shortages of the mechanized force. The light infantry augmentation also assisted the mechanized forces because of the ROE restrictions on the turret weapons systems in highly populated areas.¹²² To ensure that the mechanized units had enough small-arms fire to respond, the light infantry provided the ability to close with and destroy belligerent forces with minimal destructive collateral effects. The light infantry also ensured that the dismounted mechanized infantry could retain local security at the vehicle while the light infantry deployed against hostile forces. Without this light infantry augmentation the mechanized unit would have been limited to engaging a hostile force with its own limited number of infantrymen or attempting to acquire the hostile force with its IFV turret systems.¹²³

By raw numbers the light infantry platoon had greater ability to respond to lightly armed forces with like firepower in MOUT and peace support operations. Assuming all units were at full strength, the mechanized platoon had only eighteen riflemen to place on the ground while the light infantry platoon had thirty-six (excluding the platoon leader and radio operator in both cases).

- **Deployability.**

Most U.S. involvement in peace operations in the 1990s came from sudden policy decisions that required forces to deploy rapidly, normally by air. Light forces are especially designed for such deployment. The Army Strategic Mobility Program (ASMP) requires an airborne or light division to deploy from the United States to a theater of conflict within twelve days.¹²⁴ A complete light battalion task force can

deploy to a theater within eighteen hours if necessary, with the remainder of the light brigade task force following within seventy-two hours. Though light infantry forces were quickly deployable they could not sustain themselves generally beyond three days of operation. Without immediate follow-on support troops, the light divisions were often a liability.¹²⁵

For the immediate requirement to have U.S. forces in the conflict area, mechanized forces could only meet the goal by deploying one or two platoons of mechanized infantry by air to the theater within eighteen hours. Beyond that, all heavy combat equipment had to deploy by sealift. The ASMP planning factors for a heavy brigade to deploy from the U.S. to a theater of conflict was 10 to 15 days if pre-positioned float equipment was available. Without the pre-positioned float it took an average of 30 days to get a heavy brigade from a U.S. home station, to a port of debarkation, and onward to the area of operation. The ASMP goal to get a mechanized division to the operational area was 30 days.¹²⁶

Manpower.

Urban and Peace Support Operations are manpower intensive. U.S. Army experiences in Haiti in 1994, in Bosnia in 1996 and the Russian Army experiences in Chechnya have strengthened the importance of having substantially more light infantry than mechanized forces when operating in MOUT. In Bosnia commanders found that when operating in MOUT that light infantry forces were most effective in house-to-house clearing operations because of their manpower.¹²⁷ The light infantry company was often augmented by a tank or IFV platoon but the primary maneuver element was the light infantry unit.¹²⁸ In Haiti light infantry companies were the unit of choice for urban area

searches and building and house clearing operations.¹²⁹ As in Bosnia, commanders operating in Port-au-Prince (PAP) were augmented with wheeled tactical vehicles mounting crew-served weapons, or with a Bradley mechanized section.¹³⁰ The Russians learned in Chechnya that any maneuver force in or near the city should have a force structure of predominantly light infantry.¹³¹ In the later part of the war Russian commanders learned that large numbers of light infantry had to clear all building floors, roof-tops and alleys on both sides of the street before the vehicles could move down a city block.¹³²

As was pointed out in Chapter 2, there were only five infantry battalions in a mechanized infantry division which limited the entire division to no more than 1080 dismounted infantry. In 1998, however, the Bradley equipped infantry battalion has been reduced from four maneuver companies to three, giving the battalion only 162 dismount infantrymen. This stripping away of even more dismount infantry from an already small number has decreased its ability to perform basic infantry missions. U.S. Army force design appears to be focused on the same Cold War-era capabilities: greater mechanized lethality against a peer competitor.¹³³

Chapter 5. Conclusions.

“The only way to prevent ossification of the mind is to accept nothing as fixed, to realize that the circumstances of war are ever changing, and that consequently organization, administration, strategy and tactics must change also.....Adherence to dogmas has destroyed more armies and lost more battles and lives than any cause in war.”¹³⁴

J.F.C. Fuller, *Armored Warfare*, 1951

The world security environment has undergone a dramatic change between 1990 and 1999. The dilemma is the concern for increased light infantry in the post Cold War environment while the level of the Army structure continues to shrink. The U.S. Army's Post Cold war design is essentially a heavy, modernized force, designed to fight on the plains of Europe against a conventional opponent. The INSS Strategic Assessment states under an ominous sounding paragraph titled “Specters Haunting Future Ground Force Evolution” that “The Army's planning for 2007 posits a force very similar in size and structure to that of 1996.”¹³⁵ That structure is almost identical to that of 1986 but it is a one-third smaller force.

In the design of Force XXI structure, the Army maintains the same percentage of heavy divisions and light divisions as it did at the height of the Cold War. In the late 1980's the Army consisted of eleven heavy, one motorized, and six light divisions, with three armored cavalry regiments (ACR).¹³⁶ After the defense downsizing in the 1990's, the active Army force consisted of six heavy and four light divisions, one light cavalry regiment and one heavy ACR. As the result of losses incurred in the divisional headquarters, the heavy force was reduced 12% more than the light divisions: 45% reduction in heavy divisions verses 33% from the light.¹³⁷ The reduction percentages are approximately equal when the loss of the 9th Infantry Division is taken into account. The

Army essentially cut one-third of each type of division across the board.¹³⁸ By all appearances, it seems that with the fall of the Soviet Union and disintegration of the Warsaw Pact, U.S. force structure designers planned away one third of the total Cold War threat. The Force XXI structure suggests the expectation of a threat environment that is primarily the same as in the 1980's, only smaller; a mechanized heavy threat, capable of combined arms warfare with emphasis on armor formations¹³⁹.

This would be ideal in a future Desert Storm campaign but the global environment is not cooperating. Analyst and historians urge caution. They believe the most likely operations for the future Army will be deploying ground forces into operations like Bosnia, Haiti, Somalia and Chechnya.¹⁴⁰ Operations where high-tech mechanized machinery is less important, but well-trained and disciplined ground infantry, in quantity, is essential.

There is no argument against the need for mechanized forces. On the contrary, conventional mechanized warfare may always be an option for some U.S. belligerents. But historical and recent experiences manifest that mechanized infantry units are not designed for the emerging infantry-intensive environment. The current heavy division apportioned to a Unified Commanders' Area Of Responsibility to fill a need for an infantry capability is severely limited in what options he chooses to employ the "infantry" forces of that division. As the Army grows smaller but continues to increase its operational tempo in peacekeeping and peace enforcement, it does a disservice to commanders and to mechanized forces, to place the burden of infantry-intensive missions on them. If mechanized forces are deployed for these types of conflicts, they must be made robust with significant light infantry.

U.S. Army force structure, during periods of rapid and fundamental change must be closely scrutinized and previous assumptions about potential threats must be revalidated. During the Cold War the Army made the key assumption that the Soviet Union and the Warsaw Pact intended to challenge the NATO alliance in Europe. Those assumptions drove the Army to design a technologically superior force.¹⁴¹ As the main effort, that force was weighted with all Army resources. From the early 1970s to the early 1990s force structure shifted from infantry intensive to a predominantly mechanized force. This allowed Army decision-makers to except risks in some areas in order to seize on threat vulnerabilities in others.¹⁴² Today, however, the environment has changed again. Army force planners may want to shift the main effort accordingly.

The M1 tank unit and Bradley-equipped units are undoubtedly the most lethal anti-armor forces on the mechanized battlefield. However, they are a poor choice if they are used against competent, modern and determined infantry or guerrilla forces in the new global environment. The enemy in this environment will side step the highly developed technology of the heavy forces by opting to remain formless to mechanized attack. He will embrace U.S. forces with attrition warfare and seize every opportunity to produce high casualties among Americans – regardless of any military objective. If the U.S. attacks him with the current heavy mechanized force; short on dismount infantry and long on conventional warfare technologies; it will only expedite his ability to negate our strengths. The force that he fears is one that can get close and stay with him in his environment, in the urban sprawl, restricted terrain, on the fringes of peace operations amongst large populations. He fears a force that does not present large inviting targets in the city streets, one that comes and goes in the alleyways, jungle and mountains as easily

as he can. Clearly needed today are forces that can arrive quickly in the theater of operations ready and trained to present this enemy with fears beyond his expectation. A force exceptionally trained to employ a myriad of infantry missions in so great demand.

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²¹ Captain Jonathan M. House, *Towards Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization* (Fort Leavenworth, Kansas: Combat Studies Institute, August 1984), 67.

²² Simpkin, 28-34.

²³ Christopher Bellamy, *The Future of Land Warfare* (NY: St Martins Press, Inc., 1987), 123.

²⁴ Major Robert A. Doughty, *The Evolution of U.S. Army Tactical Doctrine, 1946-76* (Ft Leavenworth, Kansas: Combat Studies Institute, U.S. Army Command and General Staff College, 1979), 40.

²⁵ Ibid, 40-41.

²⁶ Simpkin, 32.

²⁷ Herbert, 88.

²⁸ Ibid, 98.

²⁹ Doughty, 41.

³⁰ Brown, 87-98.

³¹ U.S. Army, Program Analysis and Evaluation Directorate, *America's Army...Projecting Decisive Power Into The 21st Century*, (Washington, D.C.: Official Brochure, U.S. Department of the Army, 1995), 7. The 9th Infantry Division (Motorized) was based on a light infantry division Table of Organization and Equipment (TOE). Throughout the 1980s it was used as a test-bed for various light wheeled assault vehicles for use by a light infantry division. Army leadership considered the 9th Infantry Division a deployable division though its TOE was always in a state of flux, therefore I have included it in my light infantry division count.

³² U.S. Army Field Manual 71-100, *Division Operations* (Washington, D.C.: U.S. Department of the Army, 1996), 1-5.

³³ All ground squadrons of the 2d, 3d, and 11th Armored Cavalry Regiments were equipped with the M3 Bradley IFV and the M2 Abrams tank. Each regiment had an organic mechanized 155mm howitzer battalion and an air cavalry squadron. I have included these forces in the heavy/light ratio.

³⁴ U.S. Army Field Manual 71-100, *Division Operations* (Washington, D.C.: U.S. Department of the Army, 1990), 1 - 5, and U.S. Army Field Manual 100-5, *Operations* (Washington, D.C.: U.S. Department of the Army, 1986), 41 - 42.

³⁵ Ibid.

³⁶ Ibid.

³⁷ U.S. Army FM 100-5, *Operations* (Washington, D.C.: U.S. Department of the Army, 1986), 41.

³⁸ U.S. Army Field Manual 71-100, *Division Operations* (Washington, D.C.: U.S. Department of the Army, 1990), 1 - 5.

³⁹ Ibid., 1-5 to 1-6.

⁴⁰ Ibid., 1-4.

⁴¹ Steven J. Zaloga, *The M2 Bradley Infantry Fighting Vehicle* (London: Vanguard Series, Osprey Publishing, 1986), 33 – 39.

⁴² Ibid.

⁴³ U.S. Army Field Manual 71-2, *The Tank and Mechanized Infantry Task Force* (Washington, D.C.: Department of the Army, 1988), 4-2.

⁴⁴ U.S. Army Field Manual 7-7J, *The Mechanized Infantry Platoon* (Washington, D.C.: Department of the Army, 1986), 1-4.

⁴⁵ John L. Romjue, *A History of Army '86, The Development of the Light Division, The Corps, and Echelons Above the Corps* (Ft Monroe, VA: U.S. Army Training and Doctrine Command (TRADOC), December, 1981), 25.

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⁴⁶ Ibid.

⁴⁷ GEN John A. Wickham, *White Paper 1984: Light Infantry Divisions* (Washington, D.C.: Office of the CSA, 16 April 1984), 1.

⁴⁸ CPT Timothy B. Hassell, *Army of Excellence Final Report, Volume II: The Light Infantry Division*, (Ft Leavenworth, KS: U.S. Army Combined Arms Combat Development Activity, 29 June 1984), 1-1 to 1-2.

⁴⁹ Ibid.

⁵⁰ U.S. Army Field Manual 71-100, *Division Operations* (Washington, D.C.: Department of the Army, 1996), 1-5.

⁵¹ Romjue, 20 –25.

U.S. Army, Program Analysis and Evaluation Directorate, *America's Army...Projecting Decisive Power Into The 21st Century*, (Washington, D.C.: U.S. Department of the Army, Official Brochure, 1995), 7.

⁵² The Honorable Robert M. Walker and General Dennis J. Reimer, *Statement on the Posture of the United States Army, Fiscal Year 1998*, (presented to the Committees and Subcommittees of the United States Senate and the House of Representatives, Second Session, 105th Congress, February 1997), 16-21.

⁵³ Ibid., 17

⁵⁴ John A. English, *On Infantry* (New York, NY: Praeger Publishers, 1981), 189.

⁵⁵ Frederick J. Brown, Ph.D., *The U.S. Army in Transition II, Landpower In the Information Age* (McLean, Virginia: Brassey's, Inc., 1993), 87-98.

⁵⁶ Ibid., 5-17.

⁵⁷ *A National Security Strategy For A New Century*, October 1998 (Washington, D.C.: The White House, 1998), 46.

- ⁵⁸ *Strategic Assessment 1997, Flashpoints and Force Structure* (Fort McNair, Washington, DC: Institute for National Strategic Studies, National Defense University, 1997), 1-11.
- ⁵⁹ *Strategic Assessment 1997, Flashpoints and Force Structure*, 1-11, and from Chairman Joint Chiefs of Staff, *Concept for Future Operations, Expanding Joint Vision 2010* (Washington, DC: Office of the CJCS, May 1997), 10, 14-16.
- ⁶⁰ *A National Security Strategy For A New Century*, and from *Strategic Assessment 1997, Flashpoints and Force Structure*, and from Chairman Joint Chiefs of Staff, 10, 14-16.
- ⁶¹ *Strategic Assessment 1997*, 1-11.
- ⁶² Colonel Charles J. Dunlap, *Joint Vision 2010, A Red Team Assessment* (Washington, DC: Joint Forces Quarterly, Autumn/Winter, 1997-98, No.17), 47. Also from Lester W. Grau, *Bashing the Laser Range Finder With A Rock* (Ft Leavenworth, KS: Military Review, Vol. LXXVII, No. 3, May-June 1997), 5.
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- ⁶⁴ *Ibid.*, 3.
- ⁶⁵ *Ibid.*, 2-3, 21-22.
- ⁶⁶ *Ibid.*, 13.
- ⁶⁷ Major Ralph Peters, *Our Soldiers, Their Cities* (Carlisle Barracks, PA: Parameters, United States Army War College, Spring 1996), 43-44.
- ⁶⁸ *Ibid.*, 43-44.
- ⁶⁹ *Ibid.*, 44.
- ⁷⁰ *Ibid.*, 45.
- ⁷¹ Russian Army Lessons Learned In Chechnya, Briefed at Arroyo Rand Center, Washington, DC, 12 March, 1998, Conference to U.S. Army officers, (notes of Lieutenant Colonel Bruce Chesne, U.S. Army).
- ⁷² O'Connell, 25.
- ⁷³ LTC Lester W. Grau, *Bashing the Laser Range Finder With A Rock* (Ft Leavenworth, KS: Military Review, Vol. LXXVII, No. 3, May-June 1997), 5-7.
- ⁷⁴ *Ibid.*, 7.
- ⁷⁵ *Ibid.*, 9.
- ⁷⁶ *Ibid.*, 4.
- ⁷⁷ *Ibid.*, 3.
- ⁷⁸ O'Connell, 3.
- ⁷⁹ Dunlap, 48.
- ⁸⁰ Grau, 5-7.

⁸¹ *A National Security Strategy For A New Century*, 26, and *Strategic Assessment 1997*, xiii-xiv, and from Chairman Joint Chiefs of Staff, *Concept for Future Operations, Expanding Joint Vision 2010*, 10, 14-16.

⁸² The Honorable Robert M. Walker and General Dennis J. Reimer, *Statement on the Posture of the United States Army*, Fiscal Year 1999, presented to the Committees and Subcommittees of the United States Senate and the House of Representatives, Second Session, 105th Congress, February 1998, 30-33.

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⁸⁴ *Strategic Assessment 1997, Flashpoints and Force Structure*, 266-267.

⁸⁵ *Program Analysis and Evaluation Directorate* (Washington, D.C.: Department of the Army Official Brochure, U.S. Department of the Army, 1995), 7.

⁸⁶ Ibid.

⁸⁷ *Program Analysis and Evaluation Directorate*, 7, and from article by TRADOC Public Affairs Officer, Jim Caldwell, *The New Army Division*, Soldiers, August 1998, Volume 53, No. 8, U.S. Army Chief of Public Affairs, Fort Belvoir, Virginia, 22-25. Also from The Honorable Robert M. Walker, et al, 42-43.

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